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Iowa's Wetlands: Who Will Pay for Preservation?

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Editor's note: This article by the principal investigators summarizes "Iowa Wetlands: Perceptions and Values," CARD Staff Report 00-SR 91, March 2000. The report is available online at www.card.iastate.edu.

It is estimated that before the 1750s, Iowa had around 2.3 million acres of wetlands. Today, Iowa has about 35,000 acres, with over 98 percent of the original wetlands converted to other uses—primarily agricultural production.

In the past several decades, scientists, policymakers, and landowners have begun to realize that wetlands provide numerous environmental benefits that were lost by conversion and that there may be reason to restore some of the lost areas to their wetland state. Wetlands are known to:

- Provide habitat for a variety of flora and fauna, thus sustaining biological diversity.

- Play an important role for spring migratory ducks and geese in the Midwest.

- Reduce the frequency and severity of flooding and reduce the dissemination of various groundwater and topically transmitted pollutants.

- Provide a significant source of recreational activities, including hunting, fishing, hiking, and bird watching.

THE IOWA WETLANDS SURVEY

In the foreseeable future, conservation budgets will be tight and there will likely be more projects than money to fund them. Thus, society must decide where to focus the

available sources of private and public funding. Against this backdrop and the facts cited previously, we developed and administered a survey to help decision makers understand how Iowans view the benefits and costs associated with the existence of wetlands. The Iowa Wetlands Survey was mailed in February of 1998 to the general public and to hunters and anglers (hunting/fishing license holders).

Our goal as researchers was to estimate the value that Iowans place on the preservation and/or restoration of wetlands in the state. We asked these critical questions: What attributes of wetlands do Iowans care about when they visit an area? What attributes of wetlands do they view as drawbacks? What is the general support for existing restoration efforts of wetlands in the state? Who should be responsible for wetlands protection in the state?

We used standard methods to measure the value people place on environmental goods as measured by their willingness to pay for those goods. We used two such techniques in this study. The first method was based on observing the public use of a natural resource (visits to wetlands) and inferring willingness to pay from their behavior. The second method was based on directly asking people whether they were willing to pay various sums of money to support a particular project.

SURVEY RESULTS

On average, Iowans report a high usage of the wetland areas in the state. The most popular activity (undertaken during over one-half of reported wetland visits) is wildlife viewing.



Iowans perceive a wide variety of benefits associated with wetlands in the state. The first and second most highly recognized benefits of wetlands for both the general population and hunters and anglers are wildlife habitat (about 90 percent) and recreation (70 to 75 percent).

When choosing to visit a wetland area, the most important attributes reported were water quality, variety of wildlife, and lack of congestion. Iowans are less unified concerning funding issues. Many Iowans support voluntary donation and lottery revenue (nearly 80 percent for the general population and 70 percent for hunters and anglers), but almost none support local or state tax increases.

Iowa's Agricultural Situation *Continued from page 4*

plantings and emergence well ahead of schedule. During this rally, the corn market added about 16 cents and the beans shot up 32 cents. The FAPRI (Food and Agricultural Policy Research Institute) U.S. Crop model has a price response of approximately – 4 to 5 cents per bushel for a 100 million-bushel increase in corn production and around – 35 to 40 cents per bushel for a 100 million-bushel increase in soybean production. Since the crop was in the ground and needed moisture, assuming traders have a similar price response, the market was assuming the conditions were decreasing production by 300 to 400 million bushels, and soybean production by

around 100 million bushels. This was also well ahead of the USDA's first look at the 2000/01 crop, which did not come out until after the National Drought Commission Report on May 20. It is interesting to note that the markets have been in a downward trend since before the report and NOAA's announcement on May 16. Adequate rains have helped this crop limp along. For example, because of rains early in the week of May 14-20, corn futures shed 10 cents and soybean futures lost about 23 cents. The USDA Weekly Weather and Crop Bulletin indicated for the week that rain in the northern Corn Belt significantly eased long-term drought. Later in the week, when it may have appeared the rains were not as widespread, corn and bean futures rallied 6 and 11 cents, respec-

tively, indicating the market was putting around 100 million bushels of corn and 100 million bushels of beans back in the picture.

It appears as of this writing that most of the weather premium has eroded and the markets are settling in on the expectation of a 9.7 billion-bushel corn crop and a 2.99 billion-bushel soybean crop.

Even though recent precipitation in the Corn Belt has reduced drought worries for the short-term, this crop is still a long way from the bin. Given the dismally dry soil conditions at planting time, this crop will need timely rains through out the growing season. We still have the pollination period to get through. If hot, dry conditions dominate in late June and in July the stage could be set for another weather rally. ♦

Iowa's Wetlands *Continued from page 6*

When asked who should be responsible for wetland protection in the state over one-third (38 percent) felt that the state should have primary responsibility for this function, and 28 percent felt that everyone should have such a responsibility. A relatively small number (10 percent of the general population and 9 percent of anglers) felt that the county and federal governments should have primary responsibility.

In preparation for the survey, our team conducted intensive research into wetlands, in general, and Iowa's wetlands, in particular. Because we share this information in the text and appendix (CARD Staff Report 00-SR 91), the report has added value as an educational tool about wetlands.

DEFINING WETLANDS

For the purpose of the study, wetlands are defined as transition areas

between dry land and open waters. They are not always wet. Most scientists, in fact, define wetlands not only in terms of the amount of standing water, but also in terms of the types of soil and plants found in the region. Some of the plants found in wetlands include duckweed, water lilies, cattail, pondweed, reeds, sedges, and bulrushes.

Our survey was divided into five sections. The first section solicited information on household wetland visitation patterns during the previous year, which was 1997. The second section asked questions concerning knowledge of and attitudes toward both existing wetlands and possible wetland restoration efforts. The third and fourth sections focused attention on Iowans' willingness to pay for two specific wetland programs in Iowa: The Iowa River Corridor Project and the Prairie Pothole Joint Venture. The fifth section comprised a series of socioeconomic questions concerning characteristics such as gender, age,

income, free time, and money spent on recreation activities. Each section yielded significant findings.

WETLAND VISITATION

We found that, on average, Iowans report a high usage of the wetland areas in the state. The most popular activity (undertaken during over half of reported wetland visits) is wildlife viewing. Biking, hiking, and fishing are the next most popular activities. Hunting makes up a relatively small proportion of the wetland activities.

ATTITUDES ABOUT WETLANDS

To get a better understanding of Iowans' perceptions concerning what has actually been happening to the acres of wetlands in the state over the past decade, respondents were asked to indicate whether they believe total wetland acres in Iowa have been declining, stable, increasing, or to indicate that they did not know. Although 38 percent believe the number of acres to be declining,

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16 percent believed them to be stable, and 18 percent thought they were increasing.

Iowans perceive a wide variety of benefits associated with wetlands in the state. The first and second most highly recognized benefits of wetlands for both the general population and hunters and anglers are wildlife habitat (about 90 percent) and recreation (70 to 75 percent). The next most commonly perceived benefits are biodiversity and flood control, with groundwater recharge being the least identified benefit of wetlands by both groups.

The most commonly perceived negative aspect of wetlands is mosquitoes. About one-quarter to one-third of the respondents felt that difficulty in using the land to farm was a drawback. Relatively few people viewed disease or obstacle to development as a drawback.

When choosing to visit a wetland area, the most important quality attributes reported were water quality, variety of wildlife, and lack of congestion—with ease of access, public ownership, and facilities also identified as important. Interestingly, the size of the wetland is not identified as being of particular importance.

WILLINGNESS TO PAY FOR WETLANDS CONSERVATION

Iowans are less unified on funding issues. They support voluntary donation and lottery revenue (nearly 80 percent of the general population and 70 percent of hunters and anglers), but almost no one supports local or state tax increases. Less than 50 percent of Iowans support private restoration efforts, increased license fees, user fees, and/or redistribution of state taxes. When asked who should be responsible for wetland protection in the state, more than one-third (38 percent) felt that the state should have primary responsibility for this

function, and 28 percent felt that everyone should have such a responsibility. A relatively small number, 10 percent of the general population and 9 percent of anglers, felt that the county and federal governments should have primary responsibility. About the same number (9 percent) felt that private conservation groups should shoulder the responsibility. Few felt that private landowners or municipalities should be primarily responsible for the protection of Iowa's wetlands.

The Iowa River Corridor Project is an area of saturated soils that floods frequently and encompasses roughly a 50-mile stretch along the Iowa River between Tama and the Amana Colonies. Through this project, initiated by the Natural Resource Conservation Service, interested landowners can enroll their land in the Emergency Wetlands Reserve Program and receive a one-time payment in exchange for retiring their land from agricultural production and restoring it to a wetland state. Survey questions about what Iowans themselves would be willing to pay for this program yielded an answer of about \$5 per year for five years.

The Prairie Pothole Joint Venture is part of a larger organization, the North American Waterfowl Management Plan. In Iowa, about 27,000 acres have been placed under public protection. The program has restored wetlands both by purchasing land outright from willing sellers and by developing a variety of easements where landowners agree to restore the land to its original prairie pothole wetland state. As part of the Prairie Pothole Joint Venture there is a goal for Iowa to acquire a total of 40,000 acres of land at a rate of about 2,000 to 3,000 acres per year for the next 15 years. Roughly 35 percent of our survey respondents would be willing to pay \$100 towards this project (\$20 annually for five years), but only about 20 percent would be willing to pay \$200. It is estimated that 50 percent of Iowans would be willing to

pay approximately \$25 in support of this project.

SOCIOECONOMIC INFORMATION

To help readers assess the survey results, it may be helpful to know that the average income level reported in the general population survey was about \$43,500 per year, the average household size was about 2.5 people, and 72 percent of the respondents were male. The average income reported in the license holders (hunters and anglers) survey was about \$45,500 annually, the average household was about 3.0 people, and 81 percent of the respondents were male.

ABOUT THE SURVEY

This research was funded, in part, by Iowa State University's Agricultural Experiment Station and a grant from the U.S. Environmental Protection Agency. We would be glad to provide additional information concerning the data, survey results, or statistical methods. ♦